



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,287	01/03/2006	Sung-Chul Sohn	4949-0010	4361

22429 7590 06/03/2009  
LOWE HAUPTMAN HAM & BERNER, LLP  
1700 DIAGONAL ROAD  
SUITE 300  
ALEXANDRIA, VA 22314

EXAMINER
----------

THIER, MICHAEL

ART UNIT	PAPER NUMBER
----------	--------------

2617

MAIL DATE	DELIVERY MODE
-----------	---------------

06/03/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/563,287	<b>Applicant(s)</b> SOHN, SUNG-CHUL	
	<b>Examiner</b> MICHAEL T. THIER	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) 8-42 and 48-57 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7, 43 and 44 is/are rejected.
- 7) ☒ Claim(s) 5, 45, 46 and 58 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 4/7/2009 with respect to the restriction requirement have been fully considered but they are not persuasive.

The examiner notes that each species does in fact lack unity with every other species, and the examiner merely provided an example for clarity in the previous restriction requirement. The species do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: Species 1 (claims 1-7, 43-47, and 58) contains the specific technical feature of utilizing high frequency signal processing parts, while species 2 (claims 8-14, 48, and 53) requires the specific technical feature of Bluetooth signal processing parts. Species 3 (claims 15-21, 49 and 54) requires the specific technical feature of microwave signal processing parts, species 4 (claims 22-28, 50, and 55) requires the specific technical feature of BCDMA signal processing parts, species 5 (claims 29-35, 51, and 56) requires the specific technical feature of ZigBee signal processing parts, and species 6 (claims 36-42, 52, and 57) requires the specific technical feature of radio wave signal processing parts. As can clearly be seen, each species lacks unity with every other species since no two species have the same specific technical feature. (i.e. Species 1 lacks the specific technical feature of the Bluetooth signal processing parts, as required by species 2) Therefore, the restriction requirement is held to be proper.

Upon the allowance of a generic claim, applicant will be entitled to consideration

Art Unit: 2617

of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 5 recites the limitation "from the PLL" (emphasis added). There is no mention of a PLL in claim 5 prior to this recitation (nor is there one in any of the preceding claims from which claim 5 depends, i.e. 3, 2, or 1), and therefore there is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 44, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Link, II et al. (US 7526278) in view of Bhatia (US 6052591).

**Regarding claims 1 and 44.** Link teaches system and method for providing zone-based personalized information to a user of mobile communication terminal

Art Unit: 2617

located in a specific zone (title, abstract, and figure 1A), which comprises:

a zone management system that is installed in a specific-zone and acquires a MIN information of a mobile communication terminal entering the specific zone (figure 1A item 13b, figure 6 item 60, further column 9 lines 25-30, i.e. the mobile provides information to the cell control, the information contains the MIN and cell ID);

a zone information management server that receives the MIN information and zone identification information of the zone where the zone management system is installed (figure 6 item 61 (which can further include items 62 and 63), further column 9 lines 26-27, i.e. the information (i.e. cell ID and MIN) is transmitted from the cell control (i.e. which reads on zone management system) to the MTSO (which reads on zone information management server since it receives the MIN and cell ID). The cell ID clearly reads on zone identification information of the zone where the zone management system is, since it is clearly information which identifies the cell where the cell control is located) and retrieves transmission information to be transferred to the terminal according to the MIN information and the zone identification information. (column 9 lines 35-44, i.e. if there are advertisements to be transmitted to mobiles within that cell site ID, the appropriate information is retrieved and forwarded to the transmitter to be transmitted. Further the MIN database can be searched to determine if the information is to be sent, thus allowing for the information to be transferred to the terminal according to the MIN information and zone identification information (i.e. cell ID).)

Link further teaches the idea of transferring the transmission information and the

Art Unit: 2617

MIN information to the base station of the cell where the terminal is located according to the location information. (column 9 lines 40-44, i.e. the message is generated to the appropriate cell control, to the designated mobile. Further seen in figure 1A the cell control is connected to the BS, to allow the message to be transmitted to the designated mobile, and thus the information is transferred to the base station of the cell where the terminal is located according to the location information (i.e. the cell ID originally provided).

Link does not specifically disclose the idea of requesting location registration of the terminal to HLR, however he does disclose that the mobile can be forced to register when entering particular cell sites (or zones). Registering location information of a mobile terminal to the HLR is extremely well known in the wireless communications art, especially in the location based service and handover fields. One of ordinary skill in the art at the time of invention would have found this to be an obvious feature in order to allow the users home network to know where the mobile is located, especially for things such as billing. (i.e. different areas may require different ratings for use, and thus the HLR would need to know the location of the mobile for appropriate billing). For clarification purposes please see the following, where the examiner provides a reference disclosing this well known feature.

However, Link does not specifically disclose requesting location registration of the terminal to the HLR and an SMS server that receives the transmission information and the MIN information from the zone information management server, gets location information of the terminal corresponding to the MIN information from the HLR, and

Art Unit: 2617

transfers the transmission information and the MIN information to the base station of the cell where the terminal is located according to the location information.

Bhatia teaches a system and method for broadcasting messages to mobile stations within a specific area (title and abstract). He teaches the idea of requesting location registration of the terminal to the HLR (column 3 lines 39-41, i.e. the GMSC performs an interrogation of the HLR to determine the location of the mobile, the HLR stores subscriber info and keeps track of the current location of the mobile station) and an SMS server (figure 5, SMS-GMSC 190) that receives the transmission information and the MIN information from the zone information management server (column 4 lines 47-56, i.e. the packet message of information is transferred to the SMS-GMSC) gets location information of the terminal corresponding to the MIN information from the HLR (column 4 lines 56-61, the SMS-GMSC interrogates the HLR for information identifying where the mobile is currently located), and transfers the transmission information and the MIN information to the base station of the cell where the terminal is located according to the location information. (see figure 5 and column 4 line 62-column 5 line 6, i.e. the message is then routed to the MSC serving the mobile stations current location, the message is then encapsulated into an SMS (i.e. transformed into a burst message format) and delivered to the mobile station via the BSC)

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to utilize the teachings as in Bhatia with the teachings as in Link. The motivation for doing so would have been to allow for selectively broadcasting SMS messages to mobile stations in particular areas (Bhatia column 1 lines 64-67).

**Regarding claims 2 and 47.** Link further teaches wherein the zone management system receives mobile terminal information that is transferred from a mobile terminal to a base station, and acquires MIN information from the received mobile terminal information. (figure 6, further column 5 lines 45-48, i.e. the data is received from the mobile by the cell control (i.e. zone management system) at the cell tower (i.e. BS) and 9 lines 25-27, i.e. the cell control receives information from the mobile containing cell site ID and MIN, in figure 6 it is seen that the cell control (or zone management system) is located between the BS and the MTSO, the data that is received from the mobile by the BS goes to the cell control and on to the MTSO))

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Link in view of Bhatia as applied to claims 1-2 above, and further in view of Takaki et al. (US 2001/0014596).

**Regarding claim 3.** Link and Bhatia teach the limitations of the previous claim. Link further teaches the zone management system has a communication part which transmits the MIN information and the zone identification information to the zone information management server under control of a control part. (column 9 lines 26-27, i.e. the information is transmitted via a cell control link..., thus the cell control clearly has a communication part under control of a control part in order to allow for transmitting the data.) He also teaches the idea of acquiring MIN information in column 9 lines 29-30, i.e. extracts the MIN.

However, they do not specifically disclose wherein the zone management system



Art Unit: 2617

comprises: an antenna which receives high frequency signal including mobile terminal information that is transmitted from the mobile terminal to the base station; a high frequency signal-processing part which converts the high frequency signals transmitted from the antenna to intermediate frequency signals; a base-band processing part which after converting the intermediate frequency signal received from the high frequency processing part to digital signals, and demodulating, acquires MIN information from the demodulated data. The examiner would like to note that the features in this claim are well known and commonly used in wireless transmission and reception units. For clarity purposes the following is provided.

Takaki teaches the idea of a radio unit (figure 1) comprising an antenna which receives high frequency signal including mobile terminal information that is transmitted from the mobile terminal to the base station (figure 1 item 101 and par. 5 explains the unit receives information from a mobile station); a high frequency signal-processing part which converts the high frequency signals transmitted from the antenna to intermediate frequency signals (par. 5); a base-band processing part (figure 1 item 109 and par. 5) which after converting the intermediate frequency signal received from the high frequency processing part to digital signals, and demodulating (par. 5, i.e. demodulates the received signal), acquires MIN information from the demodulated data (Takaki teaches that the received data is demodulated and Link teaches the idea that the received data contains the Min information, and thus the combination would allow for acquiring the MIN information).

Therefore it would have been obvious for one of ordinary skill in the art at the

Art Unit: 2617

time of invention to utilize the teachings as in Takaki with the teachings as in the combination of Link and Bhatia. The motivation for doing so would have been to utilize a well known receiver configuration to receive and demodulate a specific signal.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Link in view of Bhatia and Takaki as applied to claim 3 above, and further in view of Menard et al. (US 6563910).

**Regarding claim 4.** Link, Bhatia, and Takaki teach the limitations of the previous claim.

However, they do not specifically disclose wherein the zone management system further comprises a fire detecting part which detects Outbreak of fire by sensing heat or smoke.

Menard teaches an emergency response information distribution method and system (title and abstract). He teaches the idea of smoke and fire detectors in a wireless communication environment in figure 5 and column 6 lines 62-65 and column 13 lines 24-34.

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to utilize the teachings as in Menard with the teachings as in the combination of Link, Bhatia, and Takaki. The motivation for doing so would have been to allow for communicating emergency situations and improving response times. (Menard column 1 lines 6-9 and column 3 lines 45-47).

Art Unit: 2617

8. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Link in view of Bhatia as applied to claim 1 above, and further in view of Viikari et al. (US 2004/0092271).

**Regarding claim 6.** Link and Bhatia teach the limitations of the previous claim. Link teaches wherein the zone management system receives mobile terminal information transmitted from the mobile terminal to a base station, acquires a MIN from the received mobile terminal information, and transmits the MIN and zone identification information to the zone information management server. (as explained in the rejection of claim 1).

However, as shown above, Link teaches acquiring and transmitting a MIN and not a MAC address of the mobile terminal.

Viikari teaches a method and system for location based services (title and abstract). He teaches the idea of receiving mobile terminal information transmitted from a mobile terminal to a base station and acquiring a MAC address from the received information in par. 92. Utilizing this MAC address in place of the MIN as in Link would allow for the limitations in the claims to clearly be seen.

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to utilize the teachings as in Viikari with the teachings as in Link and Bhatia. The motivation for doing so would have been

**Regarding claim 7.** The combination of Link, Bhatia, and Viikari teaches wherein the zone information management server searches a MIN information database (Link column 9 lines 40-42) by use of the MAC address that is transmitted from the zone

Art Unit: 2617

management system (Link teaches using a MIN for the mobile terminal, however, Viikari teaches utilizing a MAC address of the mobile in par. 92), searches the MIN information matched to the MAC address (Link teaches that the system checks the list of MIN, for a specific MIN, however, in combination with Viikari teaching utilizing the MAC of the mobile would allow for searching the MIN database for the MIN that corresponds to the MAC), requests the location registration of the mobile terminal to the HLR (Bhatia (column 3 lines 39-41, i.e. the GMSC performs an interrogation of the HLR to determine the location of the mobile, the HLR stores subscriber info and keeps track of the current location of the mobile station), searches transmission information to be transmitted to the mobile terminal by use of the MAC address and the zone identification information (Link column 9 lines 31-44, Link teaches using the MIN and zone identification information (cell id), however, utilizing the MAC address as in Viikari would allow for this limitations to be seen), and transmits the transmission information and the MIN information to the SMS server (column 9 lines 44-45).

9. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Link in view of Bhatia as applied to claim 1 above, and further in view of Nichani (US 6678394).

**Regarding claim 43.** Link and Bhatia teach the limitations of claim 1.

However, they do not specifically disclose wherein the zone which the zone management system supervises covers 2 to 50m in radius.

Nichani teaches a method and system for detecting obstacles within a given area (title and abstract). He teaches the idea that a zone with a 50m radius is scanned (i.e.

Art Unit: 2617

supervised) and can also be divided into even smaller zones (i.e. 2m) in column 2 lines 18-21.

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to utilize the teachings as in Nichani with the teachings as in Link and Bhatia. The motivation for doing so would have been for smaller zones allowing for early evasive action. (Nichani column 2 lines 20-21)

***Allowable Subject Matter***

10. Claims 5, 45, 46, and 58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL T. THIER whose telephone number is (571) 272-2832. The examiner can normally be reached on Monday thru Friday 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL T THIER/  
Examiner, Art Unit 2617  
5/20/2009